Complete Summary

GUIDELINE TITLE

Fetal alcohol syndrome. Guidelines for referral and diagnosis.

BIBLIOGRAPHIC SOURCE(S)

National Task Force on FAS/FAE. Bertrand J, Floyd RL, Weber MK, O'Connor M, Riley EP, Johnson KA, Cohen DE. Fetal alcohol syndrome: guidelines for referral and diagnosis. Atlanta (GA): Centers for Disease Control and Prevention (CDC); 2004 Jul. 50 p. [217 references]

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Fetal alcohol syndrome (FAS)

Note: At the time of publication the only diagnostic category with scientific evidence to support clinical criteria is fetal alcohol syndrome (FAS). Other fetal alcohol spectrum disorders (FASDs) including fetal alcohol effect (FAE), and alcohol-related neurodevelopment disorder (ARND) are NOT addressed in this guideline.

GUIDELINE CATEGORY

Counseling
Diagnosis
Evaluation
Prevention

Risk Assessment
Screening

CLINICAL SPECIALTY

Family Practice
Neurology
Obstetrics and Gynecology
Pediatrics
Preventive Medicine
Psychiatry
Psychology

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Health Care Providers
Nurses
Occupational Therapists
Physical Therapists
Physician Assistants
Physicians
Psychologists/Non-physician Behavioral Health Clinicians
Public Health Departments
Social Workers

GUIDELINE OBJECTIVE(S)

- To provide standard diagnostic criteria for fetal alcohol syndrome (FAS) so that consistency in the diagnosis can be established for clinicians, scientists, and service providers
- To offer guidance about medical, educational, social, and family services appropriate for individuals with FAS and their families
- To increase awareness of the dangers of drinking alcohol during pregnancy and to provide recommendations for identifying and intervening with women at risk for an alcohol-exposed pregnancy

TARGET POPULATION

- Individuals that have or may potentially have fetal alcohol syndrome (FAS) and their families
- Women of childbearing age
- Pregnant women

INTERVENTIONS AND PRACTICES CONSIDERED

Framework for Fetal Alcohol Syndrome (FAS) Diagnosis and Services

1. Initial identification
2. Referral to a multidisciplinary evaluation team

3. Diagnosis
4. Services

Diagnostic Tests

1. Dysmorphia: University of Washington Lip-Philtrum Guide
2. Growth: prenatal or postnatal height or weight
3. Central nervous system (CNS) abnormalities
    - Structural: occipital-frontal circumference (OFC); imaging techniques to detect brain abnormalities
    - Neurological: norm-referenced measures of neurological functioning
    - Functional: Standardized tests to assess intelligence quotient (IQ) and other functional deficits
4. Documentation and confirmation of maternal alcohol exposure

Services Appropriate for Affected Individuals and Their Families

1. General needs services
    - Caregiver education
    - Protective Service Agencies (PSAs) education
2. Age-specific services
    - Prenatal services
    - Services for birth to three years of age: Individuals with Disabilities Education Act (IDEA) Part C
    - Services for children three to six years of age and school age: IDEA Part B
    - Services for adolescents
    - Services for adults

Identifying and Intervening With Women At Risk For An Alcohol Exposed Pregnancy

1. Methods for establishing reliable estimates of alcohol use
    - Quantity-frequency (QF) measures
    - Absolute alcohol consumed per day (AA score)
    - Timeline follow back (TLFB) measure
2. Screening tools (brief questionnaires)
    - CAGE
    - AUDIT
    - T-ACE
    - TWEAK
    - Rutgers Alcohol Problem Index
    - College Alcohol Problem Scale
    - CRAFFT
3. Computer-assisted interviews
4. Laboratory screening
5. Brief intervention (BI) (manualized [Project CHOICES, Project Balance] or computerized)
6. Motivational interviewing (MI)
7. Improving use of screening and brief intervention technology by clinicians

MAJOR OUTCOMES CONSIDERED

- Risk and incidence of alcohol-exposed pregnancies
- Prevalence of fetal alcohol syndrome (FAS)
- Risk and incidence of adverse effects associated with FAS and prenatal exposure to alcohol

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Searches of Patient Registry Data
Searches of Unpublished Data

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The Centers for Disease Control and Prevention (CDC) staff identified various reports and documents to be used as the scientific basis for diagnostic guidelines. The science base for this work included, but was not limited to:

- Published scientific, peer-reviewed, literature on physical and neurodevelopmental effects of prenatal exposure to alcohol
- The report of the Institute of Medicine (IOM) Committee to study fetal alcohol syndrome (FAS)
- Results from the work of the National Task Force on Fetal Alcohol Syndrome and Fetal Alcohol Effect (NTFFAS/FAE)
- Criteria from standard, widely used dysmorphology and neurodevelopmental textbooks or guides
- Research on measuring the FAS facial phenotype
- Reports on systems that operationally interpret the 1996 IOM criteria
- Experience in developing a surveillance case definition for the Fetal Alcohol Syndrome Surveillance Network (FASSNET)
- Ongoing state surveillance and research data
- The American Academy of Pediatrics (AAP) August 2000 statements and recommendations on FAS and other effects related to maternal alcohol use; Position of the American Academy of Family Physicians, which refers to the AAP statement
- Canadian National Committee's efforts concerning standardization of guidelines for screening, diagnosis, and surveillance of FAS

Each aspect (referral, diagnosis, services, prevention) involved review of the literature, as well as discussions with consultants, clinicians, researchers, and parents of affected children.

To develop such neurodevelopmental guidelines for referral and diagnosis, clinicians and researchers who have extensive knowledge and experience with individuals who have FAS or other related diagnoses were polled. They were queried to find out what behavioral domains they encountered most frequently or were most essential for making an FAS diagnosis. Twenty-two clinicians were contacted and their responses were synthesized. The clinicians were asked to identify five areas of deficit they considered most important for diagnosis of FAS or related disorders. In addition, the clinicians were also asked to identify three to

five specific behaviors that could be used as examples of each of the five areas of deficit.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review
Review of Published Meta-Analyses

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The external Scientific Working Group (SWG) convened by the Centers for Disease Control and Prevention (CDC) included researchers, clinicians in general and specialty medicine, representatives from academic centers and state health agencies, as well as consumer representatives from the National Organization on Fetal Alcohol Syndrome (NOFAS) and the Arc of the United States. The scientific advisory panel met to begin deliberations on the proposed guidelines. At that meeting, four subgroups were created: Fetal Alcohol Syndrome (FAS) Referral and Diagnosis; Alcohol Related Neurodevelopmental Disorder (ARND) issues; Essential Services for Children with FAS/ARND; and Identifying and Intervening with Women at Risk for an Alcohol-Exposed Pregnancy. The subgroups met and began deliberations related to the guidelines in their respective topic areas.

Consensus among members of the external Scientific Working Group (SWG) and the National Task Force on Fetal Alcohol Syndrome and Fetal Alcohol Effect (NTFFAS/FAE) was used to finalize each criterion of the guidelines for dysmorphology, growth, and prenatal exposure to alcohol.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

A meeting of the external Scientific Working Group (SWG) occurred in conjunction with a National Task Force on Fetal Alcohol Syndrome and Fetal Alcohol Effect (NTFFAS/FAE) meeting. This offered the opportunity for information sharing and feedback on progress made thus far from a range of stakeholders represented on the NTFFAS/FAE (e.g., parents, providers, and researchers).

Additional experts were polled to confirm the central nervous system (CNS)/neurobehavioral domains most affected by prenatal alcohol exposure and results of the poll were incorporated into the fetal alcohol syndrome FAS Referral and Diagnosis Guidelines (please refer to the original guideline document for additional information).

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Diagnostic and Referral Framework

The Framework for Fetal Alcohol Syndrome (FAS) Diagnosis and Services (see Figure I in the original guideline document) reflects the Centers for Disease Control and Prevention's (CDC's) recommendation that developmental screening be implemented to improve children's health and help them reach their full potential. A discussion of the major points of the framework follows.

Initial identification. Initial recognition that a child or older individual has a potential problem can come from many sources. Often, parents notice differences between a child and his or her siblings. School systems, including Head Start and daycare staff, interact with a large number of children and often recognize when someone is having difficulty. Social service professionals, such as Women, Infants & Children (WIC) clinic staff, social workers, and foster care agencies frequently recognize children and individuals having difficulty and needing evaluation. And finally, health-care providers (particularly pediatricians) often are the first to screen for and detect problems; or obstetricians, who might be aware of a maternal substance abuse problem, might refer a newborn. Recognition of many of the problems associated with FAS is exactly the type of condition the "well child" visits to the doctor's office are meant to identify. It is assumed that triggers, such as facial abnormalities, growth delay, developmental problems, or

maternal alcohol use, will emerge from the contact. Recognition of a potential problem should lead the provider, regardless of specific profession, to facilitate getting the person and his or her family to the appropriate next step.

Referral. The referral process is initiated at the point a clinician starts to have suspicions of an alcohol-related disorder for a child. This process is facilitated by thorough knowledge of the physical and neurodevelopmental domains affected in individuals with FAS, as well as characteristics that could trigger a referral. In making a referral for a complete diagnostic evaluation for FAS, it is helpful for the referring provider to gather and document specific data related to the FAS criteria. These data will assist the provider in making the decision to diagnose the child or to refer the child to a multidisciplinary evaluation team for a confirmed diagnosis. In addition, these data could be forwarded to the multidisciplinary evaluation team to guide the diagnostic process. A complete review of systems, noting features consistent with FAS, would be most productive.

Diagnosis. At this stage, the child would be presented to a multidisciplinary team who would engage in a more thorough assessment of the child using FAS diagnostic procedures to evaluate dysmorphia and growth parameters, as well as obtain appropriate neurodevelopmental evaluation data. Once a diagnosis is made, an intervention plan would be developed using a multidisciplinary team approach. A variety of specialists could contribute to the multidisciplinary team, including dysmorphologists, developmental pediatricians, psychiatrists, psychologists, social workers, and educational specialists. Other clinicians, such as pediatricians and family practitioners, also might make the FAS diagnosis, with appropriate training in use of these guidelines. In many rural and less populated regions, these clinicians must make the diagnosis for many types of birth defects and developmental disabilities. Many of these evaluation services are available within the community setting, for example school systems could provide neurocognitive assessments.

Diagnostic Criteria

Note: Refer to the original guideline document for further explanation of each criteria.

Facial dysmorphia

Based on racial norms, individual exhibits all three characteristic facial features:

- Smooth philtrum (University of Washington Lip-Philtrum Guide rank 4 or 5)
- Thin vermillion (University of Washington Lip-Philtrum Guide rank 4 or 5)
- Small palpebral fissures (at or below 10th percentile)

Growth problems

Confirmed prenatal or postnatal height or weight, or both, at or below the 10th percentile, documented at any one point in time (adjusted for age, sex, gestational age, and race or ethnicity).

Central Nervous System (CNS) Abnormalities

I. Structural
   1. Head circumference (OFC) at or below the 10th percentile adjusted for age and sex.
   2. Clinically significant brain abnormalities observable through imaging.

II. Neurological

Neurological problems not due to a postnatal insult or fever, or other soft neurological signs outside normal limits.

III. Functional

Performance substantially below that expected for an individual's age, schooling, or circumstances, as evidenced by:

1. Global cognitive or intellectual deficits representing multiple domains of deficit (or significant developmental delay in younger children) with performance below the 3rd percentile (2 standard deviations below the mean for standardized testing)

   Or

2. Functional deficits below the 16th percentile (1 standard deviation below the mean for standardized testing) in at least three of the following domains:
   a. cognitive or developmental deficits or discrepancies
   b. executive functioning deficits
   c. motor functioning delays
   d. problems with attention or hyperactivity
   e. social skills
   f. other, such as sensory problems, pragmatic language problems, memory deficits, etc.

Note: These guidelines strongly recommend that functional domains be assessed using norm-referenced standardized measures. Domains should be assessed by appropriate professionals using reliable and validated instruments.

Maternal Alcohol Exposure

I. Confirmed prenatal alcohol exposure requires documentation of the alcohol consumption patterns of the birth mother during the index pregnancy based on clinical observation; self-report; reports of heavy alcohol use during pregnancy by a reliable informant; medical records documenting positive blood alcohol levels, or alcohol treatment; or other social, legal, or medical problems related to drinking during the index pregnancy.

II. Unknown prenatal alcohol exposure indicates that there is neither a confirmed presence nor a confirmed absence of exposure. Examples include: the child is adopted and prenatal exposure(s) is unknown; the birth mother is an alcoholic, but confirmed evidence of exposure during pregnancy does not exist; and conflicting reports about exposure exist that cannot be reliably resolved.

Criteria for FAS Diagnosis

Requires all three of the following findings:

1. Documentation of all three facial abnormalities (smooth philtrum, thin vermillion, and small palpebral fissures)
2. Documentation of growth deficits
3. Documentation of CNS abnormality

Table 1: Differential diagnosis of individual features associated with FAS

Feature	Syndromes
Smooth philtrum	Cornelia de Lange syndrome Floating-Harbor syndrome Geleophysic dysplasia Opitz syndrome Toluene embryopathy
Thin Vermillion	Miller-Dieker (Lissencephaly) syndrome Fetal Valproate syndrome Geleophysic dysplasia Cornelia de Lange syndrome Toluene embryopathy
Small palpebral fissures	Campomelic dysplasia DiGeorge sequence Dubowitz syndrome Duplication 10q sequence Duplication 15q sequence FG syndrome Maternal phenylketonuria (PKU) fetal effects Oculodentodigital syndrome Opitz syndrome Trisomy 18 syndrome Williams syndrome Velocardiofacial syndrome Toluene embryopathy

Table 2: Differential diagnosis of syndromes similar to FAS

Syndrome	Overlapping Feature	Differentiating Features
Aarskog syndrome	Small nose with anteverted nares, broad philtrum, maxillary hypoplasia, and wide- spaced eyes	Rounded face, down-slant to palpebral fissures, widow's peak, crease below lower lip, incomplete out folding of upper helices, and dental eruption problems.
Williams syndrome	Short palpebral fissures, anteverted nares, long philtrum, depressed nasal bridge, and epicanthal	Wide mouth with full lips, stellate pattern of the iris, periorbital fullness, and connective tissue disorders.

Syndrome	Overlapping Feature	Differentiating Features
	folds	
Noonan's syndrome	Low nasal bridge, wide-spaced eyes, and epicanthal folds	Down-slant to palpebral fissures, keratoconus, wide mouth, and protruding upper lip
Dubowitz syndrome	Short palpebral fissures, wide-spaced eyes, and epicanthal folds	Shallow supraorbital ridge with nasal bridge near the level of the forehead, and broad nasal tip
Brachman-DeLange syndrome	Long philtrum, thin vermillion border, anteverted nares, and depressed nasal bridge	Single, bushy eyebrow extending across forehead, long eyelashes, downturned mouth, high arched palate, and short limbs (yielding short stature)
Toluene embryopathy	Short palpebral fissures, mid-face hypoplasia, smooth philtrum, and thin vermillion border	Micrognathia, large anterior fontanel, down-turned mouth corners, hair patterning abnormalities, bifrontal narrowing, and ear abnormalities
Fetal hydantoin syndrome (Fetal dilantin syndrome)	Wide-spaced eyes and depressed nasal bridge	Short nose with bowed upper lip
Fetal valproate syndrome	Epicanthal folds, anteverted nares, long philtrum with thin vermilion border, and wide-spaced eyes	High forehead, infraorbital crease or groove, and small mouth
Maternal PKU fetal effects	Epicanthal folds, short palpebral fissures, long underdeveloped philtrum, and thin vermillion border	Small upturned nose, round facies, and prominent glabella

Considerations for a Referral for an FAS Diagnostic Evaluation

- For situations with known prenatal alcohol exposure: A child or individual should be referred for full FAS evaluation when there is confirmed significant prenatal alcohol use (i.e., 7 or more drinks per week or 3 or more drinks on multiple occasions, or both). If prenatal alcohol exposure in the high risk range is known in the absence of any other positive screening criteria, the primary health-care provider should document this exposure and closely monitor the child's ongoing growth and development.
- For situations with unknown prenatal alcohol exposure: A child or individual should be referred for full FAS evaluation when:

- there is any report of concern by a parent or caregiver (foster or adoptive parent) that his or her child has or might possibly have FAS.
- all three facial features are present (smooth philtrum, thin vermillion, and small palpebral fissures).
- one or more facial features are present in addition to growth deficits in height or weight, or both.
- one or more facial features are present, along with one or more CNS abnormalities.
- one or more facial features are present, along with growth deficits and one or more CNS abnormalities.

Services Appropriate for Affected Individuals and Their Families

Refer to the original guideline document for information on the following topics:

- Risk and preventive factors
- General needs
- Age-specific services, including:
  - Prenatal services
  - Services for birth to 3 years of age
  - Services for children 3 to 6 years of ages and school age
  - Services for adolescents
  - Services for adults

Identifying and Intervening with Women at Risk for an Alcohol-Exposed Pregnancy

All women of childbearing age should be screened for alcohol use, including women who are pregnant or nursing, women who are planning a pregnancy, and women who are sexually active and not using contraception (such as teens and college-aged women). Refer to the original guideline document for discussion of the following topics:

- Methods and considerations for establishing reliable estimates of alcohol use
- Screening tools
- Computer-assisted interviews and laboratory screening measures
- Brief intervention
- Motivational interviewing
- Manualized brief intervention
- Computerized brief intervention
- Improving use of screening and brief intervention technology by clinicians

Note: Women who are pregnant, planning a pregnancy, or at risk of pregnancy should be advised not to drink, as no safe threshold of alcohol use during pregnancy has been established. Non-pregnant childbearing-aged women should be advised to drink no more than seven drinks per week and no more than three drinks on any one occasion.

CLINICAL ALGORITHM(S)

An algorithm is provided in the original guideline document titled "Framework for Fetal Alcohol Syndrome (FAS) Diagnosis and Services."

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The science base for this work included, but was not limited to:

- Published scientific, peer-reviewed, literature on physical and neurodevelopmental effects of prenatal exposure to alcohol;
- The report of the Institute of Medicine (IOM) Committee to study fetal alcohol syndrome (FAS);
- Results from the work of the National Task Force on Fetal Alcohol Syndrome and Fetal Alcohol Effect (NTFFAS/FAE);
- Criteria from standard, widely used dysmorphology and neurodevelopmental textbooks or guides;
- Research on measuring the FAS facial phenotype;
- Reports on systems that operationally interpret the 1996 IOM criteria;
- Experience in developing a surveillance case definition for the Fetal Alcohol Syndrome Surveillance Network (FASSNET);
- Ongoing state surveillance and research data;
- The American Academy of Pediatrics (AAP) August 2000 statements and recommendations on FAS and other effects related to maternal alcohol use; Position of the American Academy of Family Physicians, which refers to the AAP statement; and
- Canadian National Committee's efforts concerning standardization of guidelines for screening, diagnosis, and surveillance of FAS.
- Most evidence for the benefit of services has been gleaned from research with other populations, clinical wisdom, and family experiences.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Prevention of fetal alcohol syndrome (FAS) and related disorders is of tremendous public health importance. A large amount of research in recent years has enabled researchers and service providers to develop programs that are effective and targeted to specific populations for reducing the risk of an alcohol-exposed pregnancy, which prevent FAS.
- The FAS diagnosis and the diagnostic process are part of a continuum of care that identifies and facilitates appropriate health care, education, and community services.
- Services appropriate for affected individuals and their families can reduce the risk of secondary conditions and negative consequences of FAS including:
    - Disrupted school experiences
    - Legal problems
    - Incarceration
    - Mental health problems
    - Substance abuse problems
    - Inappropriate sexual behavior
    - Dependent living
    - Poor employment history

Subgroups Most Likely to Benefit

One public health strategy for preventing alcohol-exposed pregnancies is to identify characteristics of women at greatest risk of having a child affected by prenatal alcohol exposure and implement prevention programs in subpopulations with higher proportions of these identified risk factors:

- Low socioeconomic status (SES)
- African-American and American-Indian/Alaska-Native ethnicity
- Being a smoker
- Being unmarried
- Having a history of previous or current illicit drug use
- Having a history of physical or sexual abuse
- Having psychological stress
- Having mental health disorders
- Having multiple sex partners
- Women who are drinking at thresholds that have been associated with adverse pregnancy and infant outcomes before pregnancy occurs

POTENTIAL HARMS

When attempting to qualify children with fetal alcohol syndrome (FAS) for special education services, the behavior disorder eligibility category of the Individuals with Disabilities Education Act (IDEA Part B) should be used with care because children with FAS can learn negative behaviors from other children without receiving the benefits of a structured environment.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

These guidelines are not intended to be an endpoint in the discussion of diagnosing fetal alcohol syndrome (FAS). There is a great need to acquire science-based information that will facilitate diagnostic criteria for additional related disorders, such as Alcohol Related Neurodevelopmental Disorder (ARND). These guidelines conclude with a call for further research and continuous refinement of the diagnostic criteria for FAS and related conditions so that affected individuals and their families can receive important services that enable them to achieve healthy lives and reach their full potential.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

IMPLEMENTATION TOOLS

Clinical Algorithm
Patient Resources

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness
Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

National Task Force on FAS/FAE. Bertrand J, Floyd RL, Weber MK, O'Connor M, Riley EP, Johnson KA, Cohen DE. Fetal alcohol syndrome: guidelines for referral and diagnosis. Atlanta (GA): Centers for Disease Control and Prevention (CDC); 2004 Jul. 50 p. [217 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2004 Jul

GUIDELINE DEVELOPER(S)

Centers for Disease Control and Prevention - Federal Government Agency [U.S.]

SOURCE(S) OF FUNDING

United States Government

GUIDELINE COMMITTEE

National Task Force on Fetal Alcohol Syndrome and Fetal Alcohol Effect (NTFFAS/FAE)

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the Centers for Disease Control and Prevention (CDC) Web site.

Print copies: Available from the Centers for Disease Control and Prevention (CDC), NCBDDD, Mail-Stop E-86, 1600 Clifton Road, Atlanta, GA 30333. Additional copies can be purchased from the Centers for Disease Control and Prevention (CDC), Fetal Alcohol Syndrome Web site.

AVAILABILITY OF COMPANION DOCUMENTS

Various companion documents, including educational materials and publications, available from the Centers for Disease Control and Prevention (CDC), Fetal Alcohol Syndrome Web site.

PATIENT RESOURCES

The following are available:

- Alcohol use and pregnancy. 2004 Jul.
- Fetal alcohol syndrome. 2004 Jul.
- Living with fetal alcohol syndrome. 2004 Jul.
- Monitoring fetal alcohol syndrome. 2004 Jul.

Electronic copies: Available in Portable Document Format (PDF) from the Centers for Disease Control and Prevention (CDC), Fetal Alcohol Syndrome Fact Sheets Web site.

NGC STATUS

This NGC summary was completed by ECRI on January 12, 2005.

Date Modified: 5/2/2005